

REMARKS

Claims 1-19, 21, 26 and 28-42 are pending in this application. By this Amendment, claims 18, 21 and 26 are amended and claims 20, 22-25 and 27 are canceled without prejudice or disclaimer.

Entry of this Amendment is proper under 37 C.F.R. §1.116 because the amendments: a) place the application in condition for allowance for the reasons set forth below; b) do not raise any new issues that require further search and/or consideration; and/or c) place the application in better form for an appeal should an appeal be necessary. More specifically, independent claim 18 is amended to include features of dependent claim 20 and independent claim 26 is amended to include features of dependent claim 27. Thus, no new issues are raised. Entry is proper under 37 C.F.R. §1.116.

The Office Action rejects claims 1-2, 6-8 and 10-42 under 35 U.S.C. §102(b) over U.S. Patent 5,627,879 to Russell et al. (hereafter Russell). The Office Action also rejects claims 3-5 under 35 U.S.C. §103(a) over Russell and U.S. Patent 5,067,173 to Gordon et al. (hereafter Gordon). Still further, the Office Action rejects claim 9 under 35 U.S.C. §103(a) over Russell. The rejections are respectfully traversed.

Independent claim 1 recites a base station configured to output first digital in phase and quadrature phase (I/Q) signals, an optical connecting unit configured to convert the first digital I/Q signals into optical signals and output the converted optical signals through an optical cable, and an optical base station coupled to receive the optical signals through the optical cable and

configured to convert the optical signals into second digital I/Q signals, and convert the second digital I/Q signals into first RF signals for transmission.

Russell does not teach or suggest all these features. In particular, the Office Action asserts that the claimed base station is shown as Russell's base station 330 (FIG. 17), head end unit 332 and AM modulator/demodulator 338 (FIGs. 27B-28). However, the head end unit 332 and the AM modulator/demodulator 338 do not correspond to the claimed base station. One skilled in the art would clearly understand the meaning of a base station, as the terminology "base station" is well known to one skilled the communications art. One skilled in the art will clearly recognize that Russell's base station 330 (FIG. 17) would not include the head end unit 332 and the AM modulator/demodulator element 338. For example, in FIG. 17, the base station 330 is coupled to the head end unit 332 by fibers 331A and 331B. One skilled in the art will clearly understand that a base station does not include fibers that are connected to a head end unit as well being coupled to an AM modulator/demodulator. Russell discloses that the base station 330 may be positioned remote from the head end or, alternatively, may be located at the head end such that that the RF signal output from the transmitters (of the base station) may be filtered and applied to the modulator/demodulator 338. That is, Russell clearly discloses that the base station 330 outputs RF signals. See column 15, lines 31-48 as well as FIG. 3.

Russell does not teach or suggest a base station configured to output first digital in phase and quadrature phase (I/Q) signals as recited in independent claim 1. Stated differently, there is no suggestion to interpret Russell's base station so as to include the head end unit 332 and the

AM modulator/demodulator 338. These features are not part of a base station as would be understood to one skilled in the art. Accordingly, independent claim 1 defines patentable subject matter at least for this reason.

Independent claim 1 further recites an optical base station. The Office Action asserts that Russell's optical node 342 (FIGs. 17 and 29) corresponds to the claimed optical base station. However, applicants respectfully submit that the node 342 is not a base station. Furthermore, FIG. 29 is described as being related to an optical node (as compared to a base station). See column 6, lines 59-61. There is no suggestion in Russell for the features of an optical base station as would be known to one skilled in the art. Accordingly, independent claim 1 defines patentable subject matter at least for this additional reason.

Independent claim 11 also defines patentable subject matter for at least similar reasons. That is, independent claim 11 recites converting first digital I/Q signals outputted from a base station into optical signals as well as transmitting the optical signals through an optical cable to an optical base station. For at least the reasons set forth above, Russell does not teach or suggest the first digital I/Q signals outputted from a base station. Furthermore, Russell does not teach or suggest transmitting the optical signals through an optical cable to an optical base station. Accordingly, independent claim 11 defines patentable subject matter at least for this reason.

Furthermore, independent claim 18 recites receiving RF signals through an antenna of a remote base station. Independent claim 18 also recites converting the digital optical signals to second digital electronic signals in the optical coupling unit, where the second digital electronic

signals including in phase and quadrature phase (I/Q) signals. Furthermore, independent claim 18 recites providing the second digital electronic signals from the optical coupling unit to a base station. For at least similar reasons as set forth above, Russell does not teach or suggest these features. More specifically, Russell does not disclose the claimed remote base station. Additionally, Russell does not teach or suggest providing the second digital electronic signals from the optical coupling unit to a base station, where the second digital electronic signals include in phase and quadrature phase (I/Q) signals. Accordingly, independent claim 18 defines patentable subject matter at least for these reasons.

Independent claim 26 also defines patentable subject matter for at least similar reasons. That is, independent claim 26 recites receiving digital I/Q signals from a base station, converting the digital I/Q signals to optical signals in an optical connecting unit, transferring the optical signals over an optical cable to a remote station and converting the optical signals into RF signals for transmission. For at least the reasons that support the above, Russell does not teach or suggest claimed features relating to receiving digital I/Q signals from a base station. Additionally, Russell does not suggest transferring the optical signals over an optical cable to a remote station. Accordingly, independent claim 26 defines patentable subject matter at least for this reason.

Still further, independent claims 31 and 33 define patentable subject matter for at least similar reasons by reciting a remote base station. That is, independent claim 31 recites a remote base station coupled to receive the first digital optical signals and configured to convert the first digital optical signals to first analog RF signals for transmission. Furthermore, independent claim

33 recites a remote base station, coupled to receive the first optical signals, and configured to convert the first optical signals to third digital I/Q signals, convert the third digital I/Q signals to first RF signals, transmit the first RF signals, receive second RF signals, convert the second RF signals to fourth digital I/Q signals, and convert the fourth digital I/Q signals to the second optical signals. For at least similar reasons as set forth above, Russell does not teach or suggest the claimed remote base station as recited in each of independent claims 31 and 33. Accordingly, independent claims 31 and 33 define patentable subject matter at least for this reason.

For at least reasons set forth above, each of independent claims 1, 11, 18, 26, 31 and 33 defines patentable subject matter. Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

For example, dependent claim 7 recites a multiplexer/demultiplexer configured to multiplex the first digital I/Q signals, an optical transceiver configured to convert output signals of the multiplexer/demultiplexer into the optical signals and transmit the optical signals through the optical cable to the optical base station, and a clock unit configured to provide a synchronous signal to the multiplexer/demultiplexer unit. The Office Action states that the claimed clock unit is not explicitly shown but is disclosed at col. 31, lines 3-9. However, applicants respectfully submit that Russell's col. 31, lines 3-9 does not teach the claimed clock

unit of the optical connecting unit. Dependent claim 7 defines patentable subject matter at least for this additional reason.

Furthermore, dependent claim 8 recites that the optical transceiver is further configured to receive optical signals from the optical base station and convert the received optical signals into third digital I/Q signals to be transmitted to the base station. The Office Action cites Russell's col. 17, lines 36-41 for these features. However, this section does not relate to digital I/Q signals to be transmitted to a base station. Dependent claim 8 defines patentable subject matter at least for this additional reason.

Furthermore, dependent claim 9 recites that the optical connecting unit receives the first digital I/Q signals from at least one channel card of the base station. The Office Action states that channel cards are well known. However, there is no suggestion for the claimed card and digital I/Q signals. For at least these reasons, dependent claim 9 defines patentable subject matter.

CONCLUSION

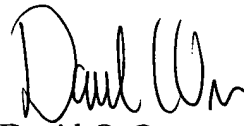
In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-19, 21, 26 and 28-42 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

Serial No. 10/023,745
Reply to Office Action dated August 24, 2005

Docket No. P-0306

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
FLESHNER & KIM, LLP



David C. Oren
Registration No. 38,694

P.O. Box 221200
Chantilly, Virginia 20153-1200
(703) 766-3701 DYK:DCO/kah

Date: December 22, 2005

Please direct all correspondence to Customer Number 34610